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appearance as those of *N. rumpens*, from which this appears to differ in its more broadly effused, thinner stroma and depressed globose perithecia.

NUMMULARIA SUBAPICULATA, E. & E. (n. s.). On bark. Topeka, Kan. Cragin 267. Subcuticular, erumpent 1-2<sup>cm</sup> across, convex, 1<sup>mm</sup> thick or a little more in the center, with the sterile margin thinner. Ostiola slightly papillose, prominent as in the two preceding species. Perithecia monostichous, oblong, about three-fourths millimeter high, closely packed and more or less laterally compressed. Asci cylindrical, 90-100 $\mu$  (p. sp.), with a short stipitate base, and with long stout paraphyses, as in *N. Bulliardi*. Sporidia uniseriate, oblong-navicular or inequilaterally-elliptical, pale yellowish brown, 12-16 by 5-7 $\mu$ , mostly with a single nucleus and a faint, bead-like apiculus at each end. This was reported to Professor Cragin as *N. Bulliardi* Tul. It differs from that species as noted.

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### THE GENUS SCLERODERMA IN SACCARDO'S SYLLOGE.

By J. B. ELLIS.

This genus in Vol. VII, Part I, of the Sylloge appears to be made up of heterogeneous materials, being made to include not only the species usually known as *Scleroderma*, with a thick, corky peridium, but also species with papery-membranaceous peridium, heretofore included in *Bovista* and *Mycenastrum*. Among the latter we find *Mycenastrum Oregonense*, E. & E. This species was already sufficiently unfortunate in being overburdened with names, a comparison with authentic specimens showing it to be the same as *Bovista pila* B. & C., and *B. tabacina*, Sacc. It now becomes *Scleroderma Oregonense* and *Lanopila? tabacina*! The specific name *pila* being the one first given must take precedence, and unless the genus *Bovista* is to be abandoned I see no good reason why the generic name given by B. & C. should not also remain. The species in question is closely allied to *Bovista nigrescens*, Pers. So closely in fact that, regarding only its external characters it could not safely be separated from that species. Its internal characters, however, are slightly different.

The true *B. nigrescens* (Sec English and Italian spec.) differs in its rather larger (5 $\mu$ ) spores, which are also often very slightly muriculate-roughened and have a hyaline pedicel about equal in length to the diameter of the spore, while in *B. pila* the spores are generally a little paler, not distinctly pedicellate and quite smooth. In both the capillitium is about the same, forming loose balls (2<sup>mm</sup> diam.) closely packed and filling the entire peridium with a firm elastic purplish-brown mass. When examined microscopically this capillitium is seen to be made up of numerous small knots or ganglia consisting of intricately entangled

masses work of coarse, purplish-brown, branching threads 12 to 15 $\mu$ . thick, which send out on all sides free, sub-dichotomously branched, sub-undulate arms tapering gradually nearly to a point and more or less distinctly granular-roughened or occasionally sub-tuberculose. *Mycenastrum corium*, Desv., of which, as shown by a comparison with authentic specimens *M. spinulosum*, Pk., is a synonym, has the capillitium of the same type only spinulose. This species is really only a *Bovista* with spinulose capillitium, and if the genus *Mycenastrum* is to be abandoned must fall into *Bovista* and not into *Scleroderma*, which differs in its thick, leathery peridium and different capillitium. If *Bovista pila* is to be placed in *Scleroderma* it is difficult to see why *B. nigrescens* and *B. plumbea* should not go there also. Nor is *Mycenastrum Ohlense*, E. & M., any more at home here, though it is not so easy to say just where it does properly belong, having, as it does, the sterile base of *Lycoperdon* with the capillitium of *Bovista*. I would leave *Bovista pila*, B. & C., where it is and make *Mycenastrum* a subgenus of *Bovista*, or if retained as a genus (which is perhaps preferable) restrict it to species with a spiny capillitium.

On page 53 of the volume cited we find another species to which several synonyms must be attached. (Sec S. Schulzer in Hedwigia, 1883, p. 43.) *Secotium Warnei*, Pk., *Columnaria*, Schulz., and *Secotium Thunii*. Schulz. are the same as *Secotium acuminatum* (Mont.) Tul.

This perhaps is not to be considered as a fault in the editor of the Sylloge, as this work aims only to give published descriptions; but without explanation one would suppose three distinct species where there is really but one.

*Lycoperdon lepidophorum*, E. & E., placed by Dr. De Toni in *Bovista*, we consider a good *Lycoperdon*, though not mentioned by Mr. Massee in his monograph of that genus. The deciduous scales correspond to the deciduous spines in some other species of *Lycoperdon* and are not to be considered as an outer peridium. The true peridium which is exposed when the outer scaly covering falls away is very thin and fragile and soon disappears.

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## SOME NEW SPECIES OF HYMENOMYCETOUS FUNGI.

By J. B. ELLIS and BENJ. M. EVERHART.

INOCYBE PALLIDIPIES, E. & E. (N. A. F. 2102.) On the ground, under filbert trees, September and October, 1887 and 1888.

Pileus conic-campanulate, about 1<sup>cm</sup> high, finally expanding and umbonate, 2 to 3<sup>cm</sup> across, light brown, fibrose-squamose, margin subrimose, disk innate-squamose or subrimose squamose. Lamellæ broadly attached with a strong decurrent tooth, ascending at first, then ventricose, scarcely crowded, rather broad (3<sup>mm</sup>), pale, becoming light watery cin-

## PLATE V.

- 13, 14. Surface view of abnormal tissue showing distortion of stomata; *a*, guard cells; *b*, accessory cells; *c*, epidermal cell.
15. Cross-section of cells of abnormal ground tissue in region of active growth, showing nucleii.
16. Cross-section of the same a little nearer the periphery nucleii not so conspicuous, and are not represented.
17. Cross-section of the same still nearer the periphery.

## PLATE VI.

18. Cross-section of the same near the periphery with *a*, the epidermal cells.
19. Cross-section of a distorted bundle; *a*, intercellular canal; *b*, annular vessel; *c*, pitted duct; *e*, element of bundle sheath; *f*, wood parenchyma.

## PLATE VII.

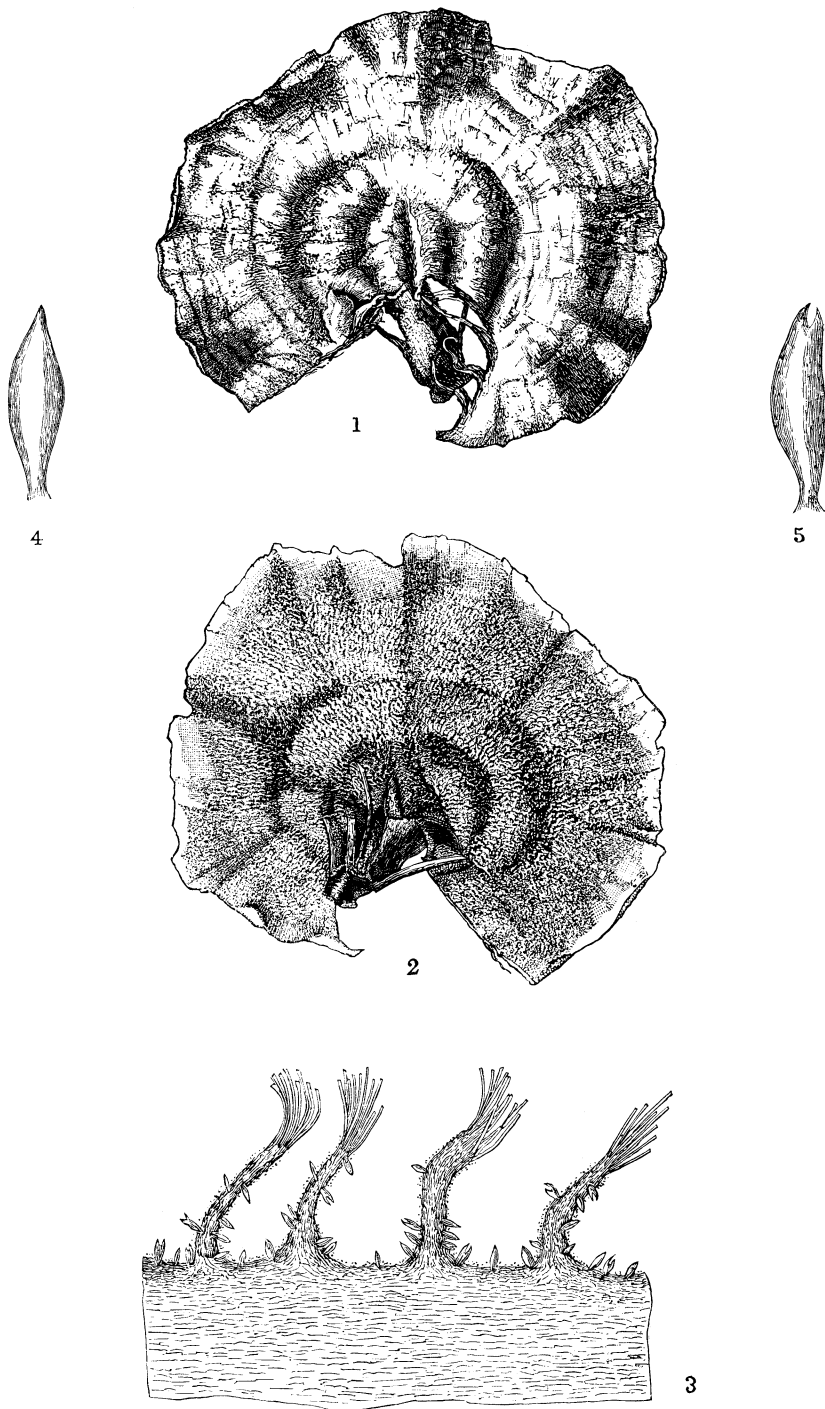
20. A section in abnormal tissue showing *a*, longitudinal section of a bundle, also a mass of mycelium filaments in early fruiting stage.
21. Longitudinal section of a more typical abnormal bundle; *a*, branch of the bundle.
22. Cross-section of the abnormal bundle.
23. Mycelium filament.
24. Mycelium filaments running through cells of the ground tissue.
25. Early stage of spore formation.
26. Later stage of spore formation.
27. Mature spore.

-- = .01<sup>mm</sup>, scale to which the figures are drawn.

## PLATE VIII.

- Fig.      1. Upper surface of pileus of *Mucronoporus tomentosus*, Fr.  
           2. Lower surface of same.  
           3. Section of pores showing the projecting points or spines.  
           4. One of these spines more highly magnified.  
           5. Spine with a bifid tip.





Sc.

Robert Cowing del.

ELLIS ON MUCRONOPORUS TOMENTOSUS, FR.